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been occupied by sick persons, and is cleared of them, an earthen vessel should be placed containing a mixture composed of common salt,

decgr. oz.

About 30 decigrammes 10 oz.

Black oxyd of manganese in powder, about..... 6 2

After the vessel is put in the requisite place, pour in the sulphuric acid, about..... 25 8

The doors and windows should be closed, and the room not entered for ten or twelve hours.

It must be evident that the quantity may be reduced or augmented in proportion to the space to be fumigated, or according to the intensity of the infection, or the nature of the contagion.

Sulphuric acid is known in commerce by the name *oil of vitriol*. The oxyd of manganese is to be met with at all the druggists, and it need only be coarsely pulverised; however, if this mineral cannot be procured in time, common salt and sulphuric acid alone may be used, the fumigation will only be less powerful and less speedy in its effects.

Second, in apartments that are actually occupied by the sick, and frequented by those that attend upon them, an inconvenient excess may be avoided, by causing a successive disengagement of the purifying gas until the contagious air of the apartment is saturated with it; for this purpose the quantity of salt and manganese must be more accurately regulated, and the sulphuric acid must be diluted with an equal quantity of water before it is poured on; it should also be poured on in small quantities at different intervals, in order to avoid causing a sudden heat which might break the vessels.

If any embarrassment occurs about regulating the quantity, the following method may be adopted: it consists in carrying through the rooms a vessel containing the mixture of salt and manganese, the person that carries it should have it fixed upon a support in one hand, and in the other he should hold a flask containing diluted sulphuric acid, and from time to time he should pour a few drops of it into the mixture. The sensation that it causes will be a certain test by which to judge, when the vapours are too weak or too strong.

Fire was at first employed in these operations, but it is now acknowledged that

they are equally effective without, and the trouble of what is gained in the more complete decomposition of the materials, is not of consequence enough to compensate for the difficulty and trouble of placing the vessels on a chafing-dish.

Description of a Vapour, Fumigation, or Shower Bath, adapted, at a small expense, for the Use of Public Hospitals or Private Families; by James Cumming, of Denbigh, in Wales.

(From the Transactions of the Society for the Encouragement of Arts, Manufactures, and Commerce.)

Having been led to form a very favourable opinion of vapour bathing, and daily meeting with cases that promised to derive benefit from its use, I was induced to send for Dr. Kentish's Treatise, second edition, on that subject, immediately on seeing it advertised; and I need hardly observe, that having never seen such a contrivance, I was much disappointed to find, that he had omitted to describe the nature of the apparatus he employed. Possessing however the command of an excellent steam-boiler, with other conveniences, at the Dispensary of this place, I determined to avail myself of them, and, if possible to erect a bath for myself. To those who made the economical application of steam an object of attention for culinary purposes, the steps that led to the present contrivance will readily appear; but as there is some resemblance betwixt the bath in question, and that of the Honourable Basil Cochrane's, I beg to state, that mine was contrived in the summer of 1810, and completed in November following, which was some months before I had an opportunity to consult his treatise, or, indeed, to derive directly or indirectly any knowledge whatever of the nature of his apparatus. Finding, however, my bath to answer beyond expectation, I naturally became anxious to know how far it was inferior or superior to those already in use; and Dr. Kentish having condescended to refer his readers to the Honourable Mr. Cochrane's book, as containing plans for vapour-baths, I was induced to send for it, to certify myself on that head. Having stated this, I have only to add, that every needless expense and ornament in the following bath I have carefully avoided. My object throughout has been, to produce a simple, cheap, durable, and efficient ap-

paratus. It would not however be difficult to point out, that local improvements, for the use of private families, may occasionally be made. For instance, the upper part of the bath might be made to move between upright pillars, something like the bell of a gazometer, and air-tight moveable joints, such as are used for chemical purposes for procuring oxygen, &c., might be substituted for the tin tubes at present used.

I have to observe, that the bath, as it now stands, can be heated to 120 degrees of Fahrenheit's thermometer, with the present boiler, &c. in the course of twenty five minutes, viz. allowing twenty minutes to raise the coldest water to the boiling point, and five minutes to heat the bath from 40 to 120 degrees, when about 12 ounces of water will be found to be collected at the bottom of the bath; but, it is worthy of remark, that a simple oblong tin boiler, of two and a half gallons, (made originally for the topical application of steam, as recommended by Dr. Bardsley, of Manchester,) has been found to answer every purpose for my bath, a circumstance that cannot fail to recommend my bath to the attention of private families, for when mounted, as in the model I have sent, it can be moved in one piece, and used in any bed-room or other room where there is a common fire-place.

The expense of heating the bath is so trifling, that several persons may bathe at the cost of one penny.

I need scarcely point out to you, that the bath, in addition to its other advantages, will form an excellent fumigating machine for medical purposes, and that the most powerful chemical vapours may be safely thrown into it.

Description of the Bathing Apparatus.

The bath is extremely simple, and may be conveniently made of any piece of cooperage, of sufficient dimensions, but nothing can, perhaps, answer better than a common wine-pipe, which, after being well washed, is to be sawn across about its middle, then to be well scraped and cleaned on the inside, and afterwards placed vertically upon a frame with castors. The upper half (in the top of which an aperture has been previously prepared for the head and neck of the bather) is to be furnished with cords, pulleys, and counterpoise, so that by connecting it with any beam, roof, or ceiling, it can

be raised or depressed, or, in other words, the bath can be opened and shut with the greatest facility.

Upon the margin of the lower piece of the bath, there is a groove, three-fourths of an inch deep, receiving the circumference of the upper half, and which is thus formed. A strong iron-hoop is first put on the outside, and then well driven about half its depth, when a similar one, after being rivetted, is driven to the same depth within.

The groove thus formed is of the utmost importance, as it not only renders the bath, with the assistance of a little water, steam-tight, but also effectually prevents it from undergoing any change of shape. It may also be observed, that the above hoops are so hammered, or set as to make the groove somewhat wider than the staves upon which they are applied, and that the edge of the upper or moveable piece of the bath is cut with a cooper's knife, so as readily to fall or slip into it.

The boiler is distant from the bath about six feet, and the steam-pipe is made to enter an inch above the bottom, and to extend itself horizontally to the centre of the same, when, with the view of equally diffusing the heat, a piece of coarse linen, or calico, stretched upon a hoop, (with a notch to admit the steam-tube,) is placed over it. This may be called a diffuser, and is made of a less diameter than the bottom of the bath, in order that the feet of a strong frame or grating, to support the bather, may securely rest upon the bottom of the bath. Immediately over this grating, a floor of split-ash (like a sieve) is laid, and upon this a seat is placed, which is fastened to the side of the bath by means of a bracket.

This seat serves the bather as a step, as he goes in or comes out of the bath.

To accommodate the various sizes of bathers, light frames, covered with split-ash, after the manner of cane-work, may be placed upon the said seat, as required.

The whole of these loose articles may be packed within the bath, when not in use, and placed in proper order, in a few seconds, when wanted.

Such is the general description of a bath that may be made in any village, and which, in point of expense, falls within the purchase of almost every family.

It is simple, cheap, neat, durable, and efficient, and moreover admits of a great variety of applications.

To use the Apparatus for total Immersion in Steam.

A light vessel, eighteen inches deep, well hooped, and made to fit at its wider end on the top of the bath, with an aperture for a tube for the bather to breathe through, and a glass sky-light, to obviate any objection against bathing in the dark; and also, an aperture for a thermometer in vapour bathing, or to admit a funnel when the apparatus is wanted to form a shower-bath.

To use the Apparatus as a Shower-Bath.

A tin vessel for holding the water is placed upon pivots, turning in grooves, and then suspended by a small cross-bar across the aperture of the upper part of the wine-pipe, and a circular curtain of linen or calico, from three to four feet deep, is fastened upon the outside of the lower rim of the upper or moveable part of the bath, which forms a complete shower-bath on the water being discharged from the tin vessel, through the numerous small holes of the cullender, on the person within the bath.

A curtain should also be used in steam-bathing, as it enables the bathers to dress and undress in the bath, with much delicacy and comfort.

To use the Apparatus as a Sudatory, or Warm Air Bath.

A tin box, in the form of a ring, is used for heating the bath as a stove; it contains about eight square feet of surface, and ought to be painted black, in order to increase its radiating powers; with an aperture for the steam tube, and an aperture to allow the escape of a portion of the steam into the air, and thereby to obviate the inconvenience of the lid of the boiler being forced off.

This part of the apparatus is of considerable importance, as it enables the bath not only to be used in certain cases as a stove-bath, but the whole bath may be speedily dried by its means, and thereby meet the more delicate feelings of some bathers, who may be obliged to use the bath after others.

Extract from the Report of the General Dispensary at Penbigh, for the year 1811.

Resolved, That the thanks of this meeting be given to Dr. Cumming, for his present of an Improved Vapour Bath, and that he be requested to publish an account

thereof, it being well calculated, from its simplicity, cheapness, and efficacy, to bring into general use an agreeable and salutary practice, as well as a powerful remedy in many diseases well known in this country in former times, but till lately neglected, and in a manner forgotten.

On the culture of Summer Wheat, or Blé Tremois; by C. T. Skurray, Esq. of Alverdiscoth, near Barnstable.

(From the Transactions of the Society for the Encouragement of Arts, Manufactures and Commerce.)

At the present high price and scarcity of bread-corn throughout the kingdom, any attempt, however unsuccessful, to remedy these evils, will, no doubt, be considered of national importance; impressed with this idea, I beg leave to present to your Society, which professes the Encouragement of Agricultural Improvements, a specimen of the real Summer Wheat, (*Triticum Æstivum*) or Blé Tremois of the French, which I have grown with great success, for some years, at my farm in Devonshire. In a season like the last, had it been generally known and cultivated, we should now have but little cause to dread a famine, or depend on our enemies for the bread we eat. As the merits of this grain have been clearly ascertained and pointed out by that eminent botanist, Sir Joseph Banks, and many others, any thing which I can say in its favour, is therefore unnecessary; but as few practical farmers have leisure to read the voluminous writings on this subject, I will, if your Society should think it worthy of their notice, send you a brief account of my method of cultivating it.

For some years it has produced me double per acre the quantity of the common wheat; and this last season I fortunately sowed twenty acres, which were very productive, and a good sample, although forty acres of my Winter Wheat, nearly adjoining, were so blighted, or mildewed, as hardly to pay the wages of harvesting and thrashing. Two acres of my Summer Wheat produced sixty one bushels, which would have sold at 16s. per bushel, for bread; but having a demand for it for seed, it produced 20s. or £.61 besides the value of the straw. The common wheat, growing in the same field, was much blighted, and produced, from two acres only eleven bushels, which sold at market